

**REMARKS****Response to Restriction Requirement**

In response to the restriction requirement imposed by the Examiner in the August 25, 2005 Office Action, Applicants hereby confirm the provisional election of Group VII, claims 89-98 and 124, made by Mr. Les Szivos on July 22, 2005 and August 4, 2005.

Correspondingly, Applicants have hereby cancelled the non-elected claims 1-88, 99-123, and 125-129. The cancellation of claims 1-88, 99-123, and 125-129 herein is with express reservation of the right to file one or more divisional patent applications directed to the subject matter of such cancelled claims, during the pendency of the present application or during the pendency of further continuation or divisional patent application(s) based on and claiming the priority of the present application.

**Response to §103 Rejections of Claims 89-98 and 124**

In the August 25, 2005 Office Action, the Examiner rejected claims 89-98 and 124 under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Patent No. 5,241,197 to Murakami et al. (hereinafter "Murakami").

Claim 89, from which claims 90-98 and 124 depend, positively recites a layered structure that comprises:

“a single crystalline substrate,

a first layer of relaxed  $\text{Si}_{1-x}\text{Ge}_x$  formed epitaxially on said substrate where Ge fraction  $x$  ranges from about 0.5 to about 0.8,

a second layer of Ge formed epitaxially on said first layer whereby said second layer is under compressive strain and having a thickness less than its critical thickness with respect to said first layer,

a third layer of undoped  $\text{Si}_{1-x}\text{Ge}_x$  formed epitaxially on said second layer, and  
a fourth layer of gate dielectric formed on said third layer.”

It is well settled that anticipation under 35 U.S.C. § 102 can only be established when each and every element of the claimed invention is disclosed in a single prior art reference.

Akzo N.V. v. U.S. International Trade Commission, 1 USPQ2d 1241, 1245 (Fed. Cir. 1986).

Further, the anticipatory reference must disclose the elements in a substantially identical manner as the claimed invention, and anticipation is not established if it is necessary to pick, choose and combine various portions of the disclosure by the reference that are not directly related to each other by the teachings of the reference. In re Arkley, 172 USPQ 524, 526 (CCPA 1972).

In the present case, however, the Examiner picked, chose, and combined various different layers from different structures disclosed by the Murakami reference so as to yield Applicants' claimed invention as recited by claims 89-98 and 124, while nothing in the Murakami reference teaches or suggests that such layers can be isolated from their respective structures and combined in the specific manner proposed by the Examiner.

Specifically, the Examiner asserted that Murakami describes a layered structure that comprises: (1) a single crystalline substrate, which is represented by the reference numeral 1 in the structure illustrated by Figure 2A of Murakami, (2) a first layer of relaxed  $\text{Si}_{1-x}\text{Ge}_x$  formed epitaxially on said substrate with a Ge fraction  $x$  ranging from 0.5 to 0.8, which is represented by the reference numeral 33 in the structure illustrated by Figure 2B or, as recited by claim 18 of Murakami, (3) a second layer of Ge formed epitaxially on said first layer, which is represented by the reference numeral 33<sup>1</sup> in the structure illustrated by Figure 2B of Murakami, (4) a third layer of undoped  $\text{Si}_{1-x}\text{Ge}_x$  formed epitaxially on said second layer, which is represented by the

<sup>1</sup> The reference numeral 33 in the structure illustrated by Figure 2B of Murakami is a SiGe emitter (see Murakami, column 3, lines 65-66, stating that “an  $\text{Si}_{1-x}\text{Ge}_x$  layer 33 acts as an emitter”), not a Ge layer. Therefore, this apparently is a typographic error, and the Examiner may have intended to refer to the germanium base layer 21 instead.

reference numeral 55 in the structure illustrated by **Figure 5** of Murakami, and (5) a fourth layer of gate dielectric formed on said third layer, which is represented by reference number 86 in the structure illustrated by **Figure 9B** of Murakami (see the August 25, 2005 Office Action, page 4, lines 13-22).

However, nothing in the Murakami reference teaches or suggests that layer 33 in the structure illustrated **Figure 2B**, or as recited by claim 18 of Murakami, can be isolated from its respective structure and then combined with the substrate 1 in the structure illustrated by **Figure 2A**, or that layer 55 in the structure illustrated by **Figure 5** can be isolated from its respective structure and then combined with the layer 33 (and/or layer 21) in the structure illustrated **Figure 2B**, or that the layer 86 in the structure illustrated by **Figure 9B** can be isolated from its respective structure and then combined with the layer 55 in the structure illustrated by **Figure 5**.

It is thus clear that the Examiner's picking and choosing of these different layers from various different structures and then combining them in such a specific manner to yield Applicant's claimed invention are not supported in any manner by the teachings of the Murakami reference.

Instead, such picking, choosing, and combining are derived from impermissible hindsight of Applicant's invention and therefore cannot be used to establish anticipation of Applicant's claimed invention.

Further, in order to establish obviousness of a claimed invention under 35 U.S.C. §103(a), the Examiner must show that there is some suggestion or motivation to modify the teachings of a single prior art reference or to combine teachings from multiple prior art references. B.F. Goodrich v. Aircraft Braking Systems Corporation, 72 F.2d 1577, 1582 (Fed. Cir. 1996).

In the present case, the Murakami reference does not even teach or suggest modification of the various structures disclosed by Figures 2A, 2B, 5, and 9B, much less modification of these structures by picking, choosing, and combining certain layers from these structures to yield Applicant's claimed invention as recited by claims 89-98 and 124.

Therefore, Applicant's claimed invention as recited by claims 89-98 and 124 patentably distinguishes over the Murakami reference.

Based on the foregoing, Applicants correspondingly request the Examiner to reconsider, and upon reconsideration to withdraw, the rejections of claims 89-98 and 124.

**CONCLUSION**

Claims 89-98 and 124 of the present application are in condition for allowance. Issue of a Notice of Allowance for the application is therefore requested.

If any issues remain outstanding, incident to the formal allowance of the application, the Examiner is requested to contact the undersigned attorney at (516) 742-4343 to discuss same, in order that this application may be allowed and passed to issue at an early date.

Respectfully submitted,



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